

### **REMARKS**

Applicant hereby cancels claims 55 and 68-69. Accordingly, claims 14-17, 53-54, 56-67, and 70-80 are pending in the present application.

Claims 69-72, 74-78, and 80 stand rejected under 35 USC 112, first paragraph. Claims 68 and 71 stand rejected under 35 USC 112, second paragraph, for indefiniteness. Claims 14-17, and 53-68 stand rejected under 35 USC 103(a) for obviousness over U.S. Patent No. 3,710,251 to Hagge et al.

Applicant respectfully traverses the rejections and urges allowance of the present application.

Applicant notes that no rejections are presented with respect to claims 73 and 79. Accordingly, Applicant requests examination of such claims in a **non-final action** if such claims are not found to be allowable. In particular, Applicant respectfully asserts that the Office Action clearly fails the regulatory mandate of 37 CFR 1.104(b) that "the examiner's action will be complete as to all matters." the Office Action clearly fails the regulatory mandate of 37 CFR 1.104(c)(2) requiring that "the pertinence of each reference, if not apparent, must be clearly explained." Applicant requests a new **non-final office action** completely addressing all matters currently of record if the above-identified claims are not found to be allowable.

Further with respect to the rejections under section 112, first paragraph, and as set forth in the previous response, MPEP 2163 II. A. (8th ed.), states *the Examiner has the initial burden, after a thorough reading and evaluation of the content of the application, of*

**presenting evidence or reasons** *why a person skilled in the art would not recognize that the written description of the invention provides support for the amendment.* Further, it is stated that if applicant points out where a claim is supported, the Examiner has the initial burden of presenting evidence or reasoning to explain why persons skilled in the art would not recognize in the disclosure a description of the invention defined in the claims.

Further, MPEP §2163.111.A (8th ed.) provides:

In rejecting a claim, the examiner must set forth express findings of fact regarding the above analysis which support the lack of written description conclusion. These findings should:

- (A) Identify the claim limitation at issue; and
- (B) Establish a *prima facie* case by providing reasons why a person skilled in the art at the time the application was filed would not have recognized that the inventor was in possession of the invention as claimed in view of the disclosure of the application as filed. A general allegation of "unpredictability in the art" is not a sufficient reason to support a rejection for lack of adequate written description.

Despite requests from Applicant, the Examiner has failed to present any evidence or reasons in compliance of the initial burden, let alone, addressing the specific points of enabling support identified in the previous response. For at least this reason, Applicant requests a non-final Action if any of the claims are rejected over 112, first paragraph in a subsequent Action.

On pages 2 and 5 of the Office Action, it is stated that the intermediate member is configured to support the wafer but not for processing within the wafer processing apparatus to form a plurality of discrete integrated circuits of a plurality of respective dies. Applicant again disagrees in view of the previously identified originally filed application teachings and teachings set forth in the incorporated application serial number 09/032,184. But for bald, cursory, unsupported allegations, the Examiner has failed to address or rebut the assertions of Applicant or offer any reasoning or evidence to address or rebut Applicant's specifically-identified teachings contrary to the mandate of the MPEP. The failure of the Examiner to address Applicant's identification of numerous teachings in support of Applicant's position illustrates the tenuous position of the Office.

MPEP 2164.01 sets forth the test of enablement and provides:

Any analysis of whether a particular claim is supported by the disclosure in an application requires a determination of whether that disclosure, when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention. The standard for determining whether the specification meets the enablement requirement was cast in the Supreme Court decision of *Mineral Separation v. Hyde*, 242 U.S. 261, 270 (1916) which postured the question: is the experimentation needed to practice the invention undue or unreasonable? That standard is still the one to be applied. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404, (Fed. Cir.

1988).

In view of the pertinent skill of art, one would understand how to make and use the invention. Little or no experimentation is needed to practice the claimed invention, and in no fair interpretation may the experimentation be considered to be undue nor unreasonable. One of ordinary skill would understand how the intermediate member is used for processing a wafer or other workpiece including exposing the wafer or workpiece to a processing environment.

The Office Action merely states "it appears that the specification does not have support for the limitations" with no evidence or reasoning. Such fails the clear mandate of the MPEP. The Office Action fails to rebut the specific teachings disclosed by Applicant evidencing enablement. Applicant respectfully request clarification of the 112, first paragraph, rejections in a **non-final action** if such rejection is maintained in the next Action so Applicant may appropriately respond.

Applicant has reproduced below the specific teachings and arguments with respect to the 112, first paragraph rejections and requests clarification how the intermediate member is not configured to support a wafer for processing as alleged in the Action in view of the specific express teachings of the originally-filed application and application serial number 09/032,184.

Page two of the pending application refers to chemically amplified resists which are utilized in deep ultraviolet (DUV) lithography and small micron geometries. Also on page 2, lines 8-12, it is stated that workpiece temperature and workpiece temperature uniformity

are parameters which are closely monitored during wafer and workpiece fabrication. As set forth on page 4 of the specification, exemplary sensors include resistance temperature devices configured to provide process signals containing process information regarding the electronic device workpiece processing apparatus. As set forth on page 2, lines 22-24, temperature sensors across the surface of a wafer are utilized to provide temperature mapping of a workpiece during processing. On page 7, lines 13-19, it is stated that workpieces typically undergo processing from which subsequent devices are formed.

Exemplary workpieces include semiconductor wafers, glass or quartz substrates for flat panel or field emission display devices. It is also stated on page 7 that typical production workpieces are processed and subsequently utilized to form products used in a variety of electronic devices. On page 9, lines 4-8, it is stated that process signals provided by sensors 23 and corresponding to processing conditions of workpiece 21 are received within data gathering device 14. Alterations to processing conditions of apparatus 10 can be changed responsive to the reception of the process signals within device 14. On page 16, lines 7-9, it is stated that chuck 40 is isolated to a greater extent from a processing environment utilized to fabricate or process electronic device workpieces. On page 17, lines 3-6, it is stated that one configuration of apparatus 10 of Fig. 6 enables processing of production workpieces while monitoring processing conditions using calibration workpiece 20. Referring to page 19, lines 12-19, it is stated that layer 28 operates to protect surface 21, sensor 23, and electrical connection 27 from the processing environment including gases, chemicals, plasmas, etc. utilized during processing of electronic device workpieces.

Accordingly, the originally filed specification is replete with teachings of processing a workpiece, such as a wafer, within a workpiece processing apparatus (see reference 10 of the originally-filed specification). The disclosure of the originally filed specification provides support for the claimed subject matter especially with reference to the disclosed exemplary embodiments of electronic device workpiece processing apparatus 10 and processing of workpieces 20 as described in the originally filed specification.

Serial No. 09/032,184 includes additional teachings providing support of the pending claims. For example, Applicant refers the Examiner to the following teachings on page 17, line 11 - page 18, line 17 of the '184 application providing:

In some embodiments, the described electronic device workpiece is configured and utilized as a calibration wafer. Such calibration wafers are typically placed within a workpiece processing chamber and the chamber can be brought up to subject processing conditions at typical elevated temperatures. Through the use of an electronic device workpiece configured as a calibration wafer, the temperature at various positions upon electronic device workpieces to be processed can be determined. Thereafter, data provided by temperature sensing devices located upon the electronic device workpiece can be utilized to provide temperature control and modify some aspect of the processing chamber.

The processing chamber is preferably modified to provide a uniform temperature distribution across the entire surface of the electronic device

workpiece being processed. In other processes, the processing chamber is modified to provide varied temperatures across a surface of the workpiece.

The modifications can be made with the calibration workpiece in place within the processing chamber. The effect of such modifications can be verified by the temperature sensing devices and associated temperature monitoring equipment coupled with the devices. Thereafter, the calibration workpiece is removed and the equipment having been desirably calibrated can be utilized to process other electronic device workpieces in mass.

In another embodiment, temperature sensing devices are provided upon an electronic device workpiece which will actually be processed and subsequently utilized to fabricate integrated circuitry or other components. The temperature sensing devices can be fabricated upon the electronic device workpiece during the fabrication of the electronic device workpiece.

In another embodiment, preexisting or prefabricated temperature sensing devices are positioned and adhered upon the electronic device workpiece.

Additional teachings providing support in the '184 application may be found at page 1, line 10 - page 3, line 9; page 5, lines 1-4; page 6, lines 11-19; page 14, line 14 - page 15, line 4; page 11, lines 13-22; and page 15, line 21 - page 16, line 15.

The Examiner is respectfully reminded that MPEP '2163.02 (8th Edition) states the test for sufficiency of support in an application is whether the disclosure relied upon reasonably conveys to the artisan that the inventor had possession at that time of the later

claimed subject matter." MPEP '2163.02 (8th Edition) *citing Ralston Purina Co. v Far-Mar-Co., Inc.*, 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985). Notably, the subject matter of the claim need not be described literally (i.e., **using the same terms** or *in haec verba*) in order for the disclosure to satisfy the description requirement. MPEP '2163.02 (8th Edition).

MPEP '2163 I. (8th Edition) states it is now well accepted that a satisfactory description may be in the claims or any other portion of the originally-filed specification and an applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention (citations omitted).

The claims are supported by the originally filed application and the specification includes numerous teachings at least as identified above. MPEP Section 2163.07(a) (8<sup>th</sup> ed.) states that by disclosing in a patent application a device that inherently performs a function or has a property, operates according to a theory or has an advantage, a patent application necessarily discloses that function, theory or advantage, even though it says nothing explicit concerning it. The application may later be amended to recite the function, theory or advantage without introducing prohibited new matter. *In re Reynolds*, 443 F.2d 384, 170 USPQ 94 (CCPA 1971); *In re Smythe*, 480 F.2d 1376, 178 USPQ 279 (CCPA 1973).

It is clear applicant has disclosed a workpiece processing apparatus (e.g., reference 10 of the originally-filed specification) that inherently performs the function of processing



workpieces or wafers. In accordance with the MPEP, Applicant's claiming of exemplary functions of the apparatus and processing wafers or workpieces is not a new matter and is enabled to one of ordinary skill in the art. There is no undue experimentation nor reasonable experimentation and the 112, first paragraph rejections are improper.

Referring to the obviousness rejection, the Examiner relies upon the teachings of Hagge in combination with the teachings of Smith. The combination is improper. The Examiner relies upon teachings of Hagge for the position that the apparatus for testing a chip or wafer is interchangeable. Applicant disagrees. Although, the structure of Hagge may be amenable to modification for such interchangeability, it is clear Smith teaches the opposite. Col. 2, lines 10-17 of Smith clearly indicate the apparatus of interest may not be interchangeable for die and wafers nor would one be motivated to modify Smith to test wafers. Smith clearly discloses an alignment template 6 with an outer perimeter, size and shape substantially the same as the die carrier 4 and the alignment template 6 is permanently mounted onto the die carrier 4. Smith addresses and provides testing using probes configured to contact pads of a lower surface of the die as set forth in Figs. 1 and 2. Fig. 1 of Hagge clearly shows only vacuum application to position the die or wafer for testing using components 31, 32 positioned over the device under test. Substantial modification of Smith would be necessary while Hagge only provides vacuum coupling to the lower surface of the die. Smith emphasizes the importance of testing the **completely manufactured die** as set forth in col. 1, lines 50-56 and provides no provision, suggestion or motivation for modification to accommodate or test wafers.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See, e.g., MPEP §2143 (8<sup>th</sup> ed.).

The Examiner states on page 3 of the Action, it would have been obvious to combine Hagge with Smith since both devices have the same characteristics and they are interchangeable. Applicant disagree. The devices do not have the same characteristics. Hagge merely provides vacuum coupling to the lower surface of the substrate while Smith teaches the use of a die carrier and specific alignment template to correctly position the die as well as provide electrical connection. Hagge provides electrical coupling to the upper surface of the substrate opposite to the vacuum coupled lower surface providing ease in interchangeability. Smith discloses specific die alignment apparatus not interchangeable to provide testing of wafers, and Smith clearly teaches away from interchangeability as alleged in view of the importance of testing completely manufactured die of col. 1.

Further, the alleged motivation is lacking to support the combination. The Examiner states the combination is appropriate since "both of these devices have the same characteristics and they are interchangeable" with respect to die and wafers. Smith clearly states in cols. 1 and 2 the devices are not interchangeable and devices configured to test

wafers are not for use in testing die. Smith is clearly directed towards testing only die with no accommodation for testing a wafer comprising unsingulated die. Smith teaches away from a design permitting testing of both die and a wafer. This teaching away is the antithesis of the art's suggesting that the person of ordinary skill go in the claimed direction. Essentially, teaching away from the art is a *per se* demonstration of lack of obviousness. *In re Dow Chemical Co.*, 837 F.2d 469, 5 USPQ2d 1529 (Fed. Cir. 1988). MPEP §2143.01 (8<sup>th</sup> ed.) states if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. MPEP §2143.01 *citing In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). There is no motivation to combine Hagge with Smith and the combination is inappropriate for at least this additional reason.

Referring specifically to claim 14, the 103 rejection is improper for at least the above-mentioned reasons. Further, the claimed intermediate member configured to support the electronic device wafer comprising a plurality of integrated circuit dies being fabricated is not shown nor suggested by the prior art. Smith is clearly directed towards testing **singulated completely manufactured die**. Hagge is directed towards a wafer or chip chucking tool for testing already fabricated circuits at different temperatures. Hagge and Smith, taken alone or in combination, fail to teach or suggest the claimed supporting of the wafer comprising the plurality of integrated circuit dies being fabricated as claimed. Limitations of claim 14 are not shown nor suggested by Hagge or Smith and claim 14 is allowable.

The claims which depend from independent claim 14 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to claim 54, the prior art fails to teach or suggest the claimed electronic device wafer comprising a sensor or the sensor being in electrical communication with the first electrical coupling, the second electrical coupling and the electrical interconnection as claimed. Claim 54 recites limitations not shown nor suggested by the prior art and claim 54 is allowable. Further, the 103 rejection is improper for the above-mentioned reasons.

The claims which depend from independent claim 54 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to the rejection of claim 61, there is no motivation to combine the Smith and Hagge references in support of the 103 rejection of claim 61. Further, Smith clearly teaches away from the combination relied upon in support of the rejection of claim 61. The rejection of claim 61 is improper for at least these reasons.

The claims which depend from independent claim 61 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to the rejection of claim 68 under 112, second paragraph, Applicant has canceled claim 68. With respect to claim 71, such claim is accurate. As set forth at least in the numerous teachings above, the intermediate member supports a wafer for

processing to fabricate a plurality of discrete integrated circuits of a plurality of respective dies. Withdrawal of the indefiniteness rejection of claim 71 is requested.

Support for the amendments may be found at least at the teachings of the originally-filed specification identified above. Additionally, sensors 23 are illustrated in Fig. 3 and described in the specification.

Applicant submits herewith copies of two previously filed Information Disclosure Statements filed March 25, 2003 and May 6, 2003 wherein the accompanying forms PTO1449 have not been initialed. Applicant requests initialization of the references and return of the forms to Applicant.

Further, Applicant submit a new IDS herewith.

Applicant respectfully requests allowance of all pending claims.

The Examiner is requested to phone the undersigned if the Examiner believes such would facilitate prosecution of the present application. The undersigned is available for telephone consultation at any time during normal business hours (Pacific Time Zone).

Respectfully submitted,

Dated: \_\_\_\_\_

10/6/03

By: \_\_\_\_\_



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